

Work Order ID 143379

Tuesday, March 15, 2016 11:41:50 AM

143379

Page 1

Item ID: D412-742-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Repl. Skidtube Fits LH or RH, High Gear, DART (Apical) Tri-Bag Float Comp.
 Start Date: 3/25/2016 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 3/29/2016 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: MLJ Date: MAR 15 2016 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	I								

100 Document Control 0.00

100

DC

Doc.Control -USB or Paperwork

DOCUMENT CONTROL

Memo

0.00

If D412-742-043 is a W/O on it's own,
 Photocopy bluefile and create labels per PPP D412-742-043 CHG006

chg out

ECN 16-516

BAS
27
9-89

MAY 10 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coor. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____							
Misidentified ☐	☐	Past Due								

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 Start Date: 3/25/2016 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 3/29/2016 Req'd Qty: 1.00 ***1*** Customer:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	HandFinishing	0.00							
110									
HandFinish	Memo	0.03							
Hand Finishing	1-Install tubes together and seal them all the way around using Sikaflex 241/291. Ensure tube ends line-up with saddle holes for proper alignment. using 7/16" "T" Pins. A/RSikaflex-241/-291 <u>M1134483</u> Expiry date: <u>16/12</u>								
	2-Install wearplates as per Dwg D3391. Ensure that plastic washers are against wearplate, then topped with the SS washer. Seal all bolts with sikaflex except ones with inserts on inside of tube ,hand tighten only bolts with no sikaflex.								
	A/RSikaflex-241/-291 <u>M1134483</u> Expiry date: <u>16/12</u>								
	3-Remove "T" pins once sikaflex is dry.								
	4-Coat all exposed hardware with LPS Procyon. Remove any excess off with MEK degreaser. A/RLPS Procyon <u>M1122900</u>								

new parts added:

AN5C-6A - M130622 (x6) } 16/05/08

AN5C-7A - M132123 (x4) }

NAS1149C0563 R / M131697 (x10)

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐					
Misidentified ☐	Past Due ☐						

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Item ID: D412-742-043

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Repl. Skidtube Fits LH or RH, High Gear, DART (Apical) Tri-Bag Float Comp.

Start Date: 3/25/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/29/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC5- Inspect part completeness to step on W/O	0.00							38 9-89
120									
QC	Memo	0.00							MAY 10 2016
Quality Control									
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-742-043								
	Location: _____								
	PPP Rev: <u>PPP144803</u>								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

1X DAS 28 0.00 MAY 10 2016

MUS MAY 10 2016
2m 10/05/10

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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D412-742-043

Required Date: 3/29/2016

Required Qty: 1.00

Comments: IPP Rev A 05.10.13 New Issue KJ/JLM
IPP Rev 06.02.13 ECN 773 dwg @ rev.D EC
IPP Rev:C 07-05-28 As per Rev F JLM
IPP Rev:D 07-12-04 ECN 1072 DD verified by:JLM
IPP Rev:E 08-09-08 ecn 08-510 DD verified by:EC IPP Rev:F
11.11.01 as per DSI9517 REV.B DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3391-021		Manufactured	No				Each	0.0000		1			
D3391-021													
Fwd Tube Assembly													
D3391-023		Manufactured	No			110	Each	0.0000	1	1			
D3391-023													
Mid Tube Assembly													
D3391-025		Manufactured	No			110	Each	1.0000	1	1			
D3391-025													
Aft Tube Assembly													
					<u>Location</u>		<u>Loc Qty</u>			<u>Loc Code</u>			
					FG		1						
					112712		1						
AN3C4A		Purchased	No			110	Each	961.0000	24	24			
AN3C4A													
Bolt													
					<u>Location</u>		<u>Loc Qty</u>			<u>Loc Code</u>			
					FG		20						
					122814		20						
					FP001		101						
					M133440		7						
					M134055		94						
					ST350		840						
					M134134		40						
					M134396		800						

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Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

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Work Order ID: 143379

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Parent Item: D412-742-043

D412-742-043

Parent Item Name: Repl. Skidtube Fits LH or RH, High Gear, DART (Apical) Tri-Bag Float Comp.

Start Date: 3/25/2016

Required Date: 3/29/2016

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

110

Each

100.0000

10

~~10~~ 4 ul

AN3C6A

Bolt

**

ul 16/05/04

Location

Loc Qty

Loc Code

CA

31

m128704

31

FG

10

122416

10

FP001

22

m133363

5

m133990

17

ST338a

32

m128769

26

m133077

6

X4

ST349

5

m132767

4

m133694

1

AN3C7A

Purchased

No

110

Each

567.0000

4

4

AN3C7A

Bolt

**

n/a ul 16/05/04

Location

Loc Qty

Loc Code

FG

10

122141

10

FP001

52

m125709

52

OVER002

400

m125709

400

ST349

105

m125709

105

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Description Work Order Deviation				Disposition					
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Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐		Pressure/Forced ☐	☐	Temperature/Cure ☐	
Design ☐	☐	Operator ☐		Bending ☐	☐	Set-up ☐	
Doc/Data ☐	☐	Offset/Setup ☐		Centre Not Concentric ☐	☐	BOM/Route ☐	
Equip/Tooling ☐	☐	Supplier ☐		Cracks ☐	☐	Broken/Damage/Defect ☐	
Handling/Pre ☐	☐	Training ☐		Crimp/Kink/Ripple/Wave ☐	☐	Inspection Incomplete/Unqualified ☐	
Material ☐	☐	Use for Testing ☐		Cuffs ☐	☐	Contamination ☐	
Internal Transport ☐	☐	Poor Information ☐		Crushing ☐	☐	Countersink ☐	
Tribal Knowledge ☐	☐	Rushing ☐		Heat Treat ☐	☐	Cut Too Short ☐	
LOA ☐	☐	Product Improvement ☐		Wave/Twist in Tube ☐	☐	Instructions Incomplete/Unclear ☐	
Substation ☐	☐	Process Improvement ☐		Marks/Chatter ☐	☐	Drill Holes ☐	
Past Expiry Date ☐	☐	Manufacturing Process ☐		OTHER : ☐ _____			
Misidentified ☐	☐	Past Due ☐					

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Parent Item: D412-742-043

D412-742-043

Parent Item Name: Repl. Skidtube Fits LH or RH, High Gear, DART (Apical) Tri-Bag Float Comp.

Start Date: 3/25/2016

Required Date: 3/29/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

110

Each

4,273.000

38

~~38~~ 28 ell

NAS1149C0332R ✱
WASHER

ell 16/05/09

Location

Loc Qty

Loc Code

FP001

3062

m132262

4

m132930

1004

m134063

1838

m134073

216

x28

GA

32

m133284

32

ST266

1179

m133284

679

m134474

500

D4095-041

Manufactured

No

110

Each

7.0000

1

1

D4095-041

Wearplate Fwd

ell 16/05/09

Location

Loc Qty

Loc Code

FP001

1

138304

1

FP002

6

136547

1

139765

5

x1

D4095-043

Manufactured

No

110

Each

6.0000

1

1

D4095-043

Wearplate Aft

ell 16/05/09

Location

Loc Qty

Loc Code

FP002

6

134429

1

138323

1

140674

4

y1

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Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
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Misidentified ☐	Past Due ☐								

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Parent Item: D412-742-043

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Parent Item Name: Repl. Skidtube Fits LH or RH, High Gear, DART (Apical) Tri-Bag Float Comp.

Start Date: 3/25/2016

Required Date: 3/29/2016

Start Qty: 1.00

Required Qty: 1.00

D4095-045

Manufactured No

110

Each

6.0000

1

1

D4095-045

Wearplate Center

del 16/05/09

Location

Loc Qty

Loc Code

FP002

6

140675

6

X1

DQA: _____ Date: _____

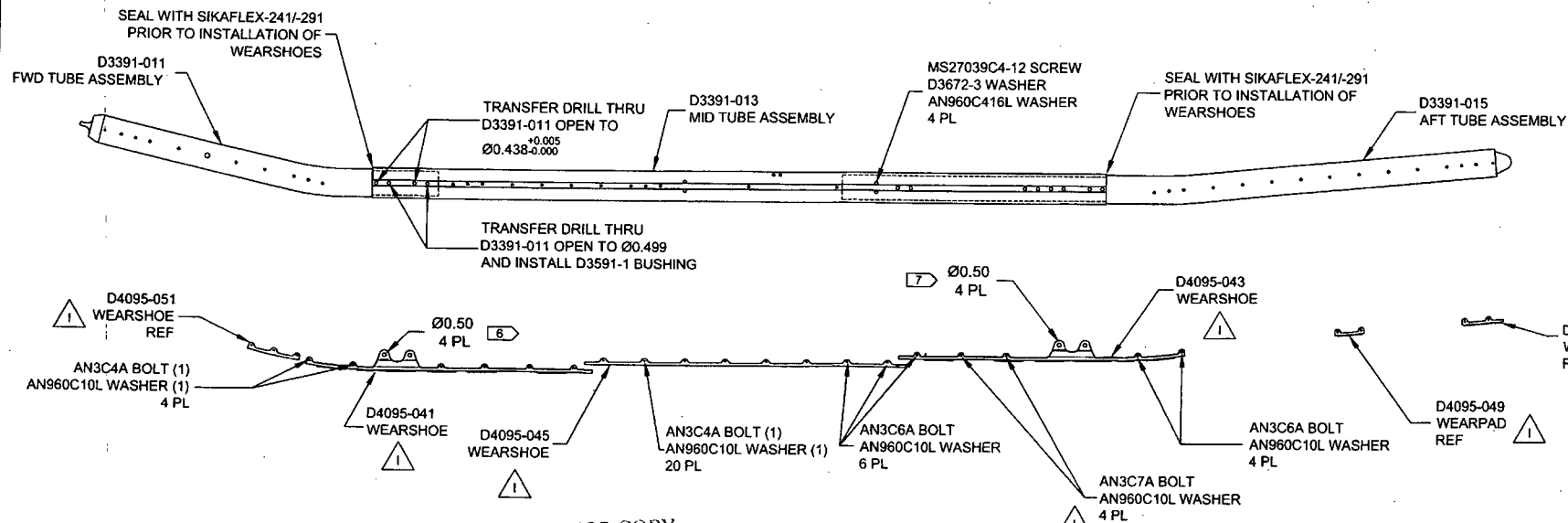


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								Completed By	
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								



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NO. 143379 MJS
16-03-15

D3391-041 ASSEMBLY

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2011-11-04
ECN# 11-662

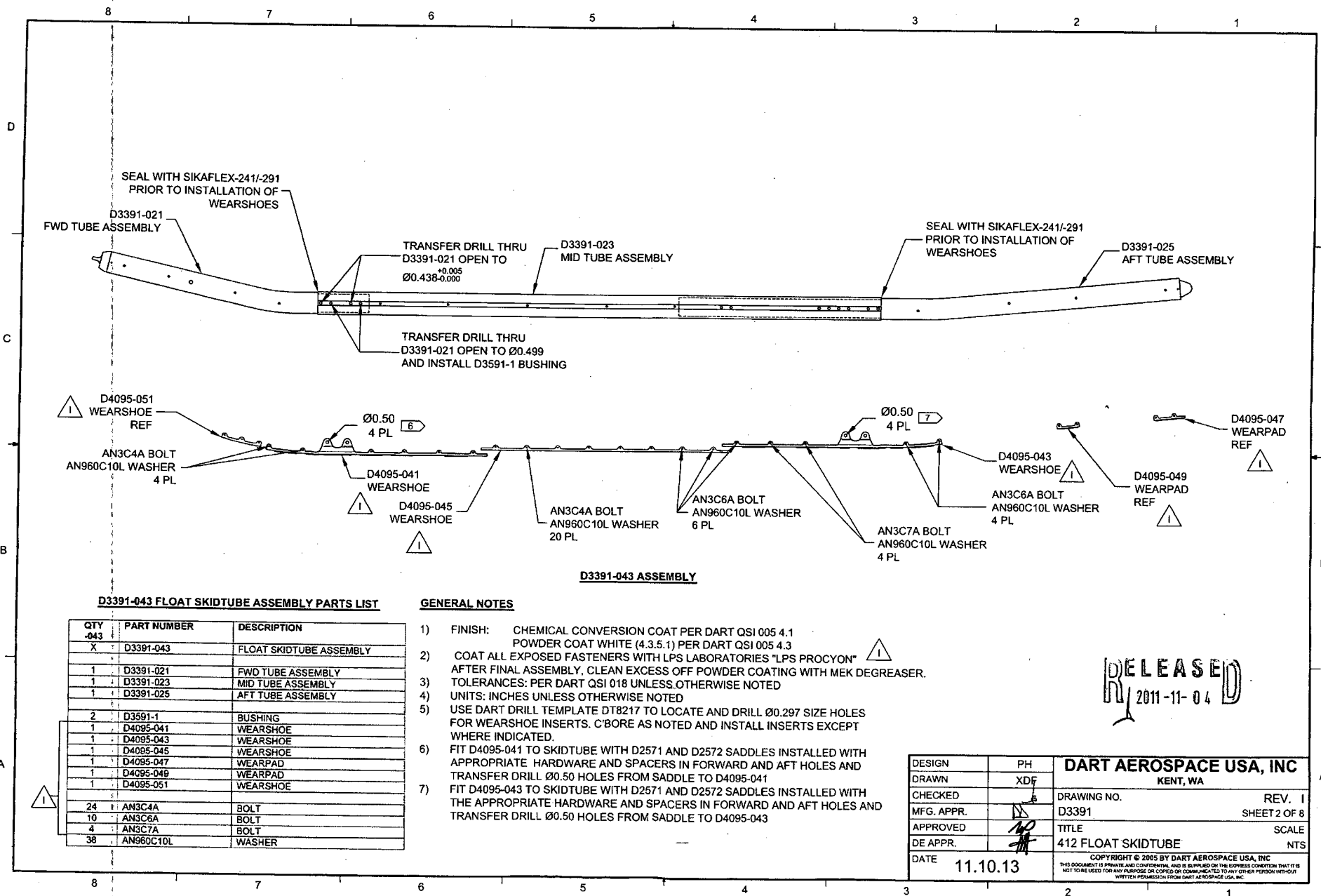
D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

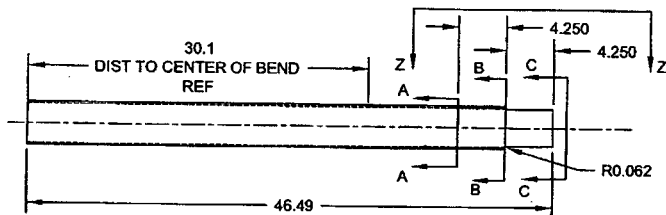
QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

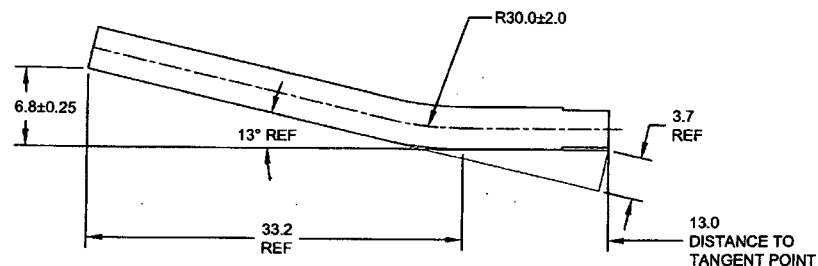
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES
FOR WEARSHOE INSERTS. CBORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC KENT, WA	
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MFG. APPR.		D3391	SHEET 1 OF 8
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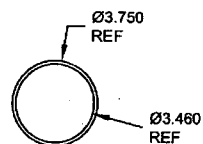




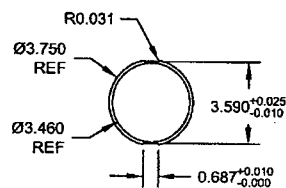
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



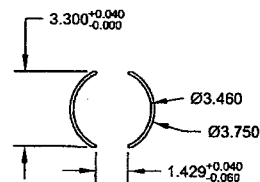
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



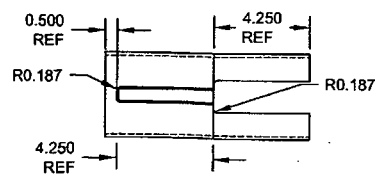
SECTION A-A
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SECTION B-B
SCALE 2X



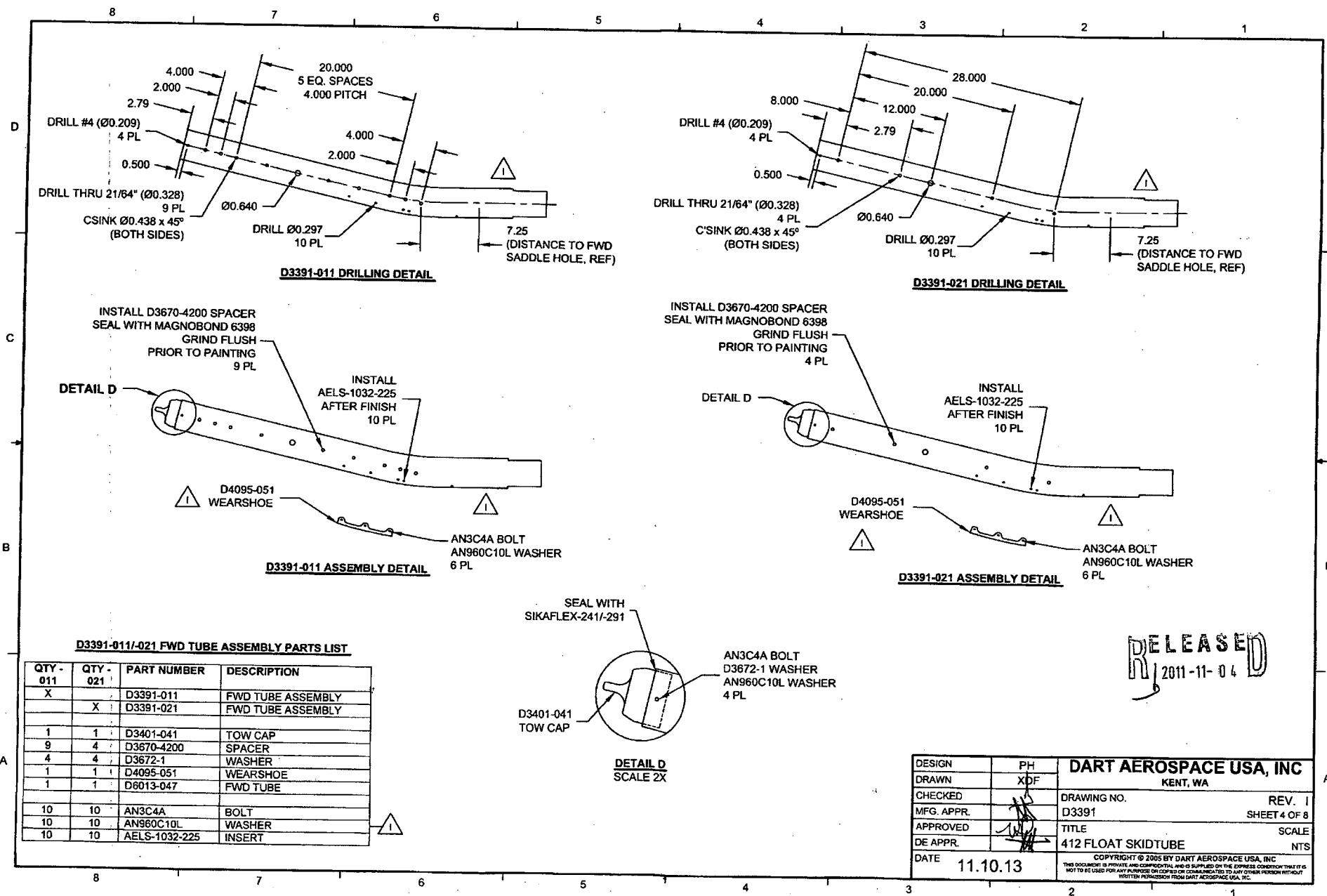
SECTION C-C
SCALE 2X

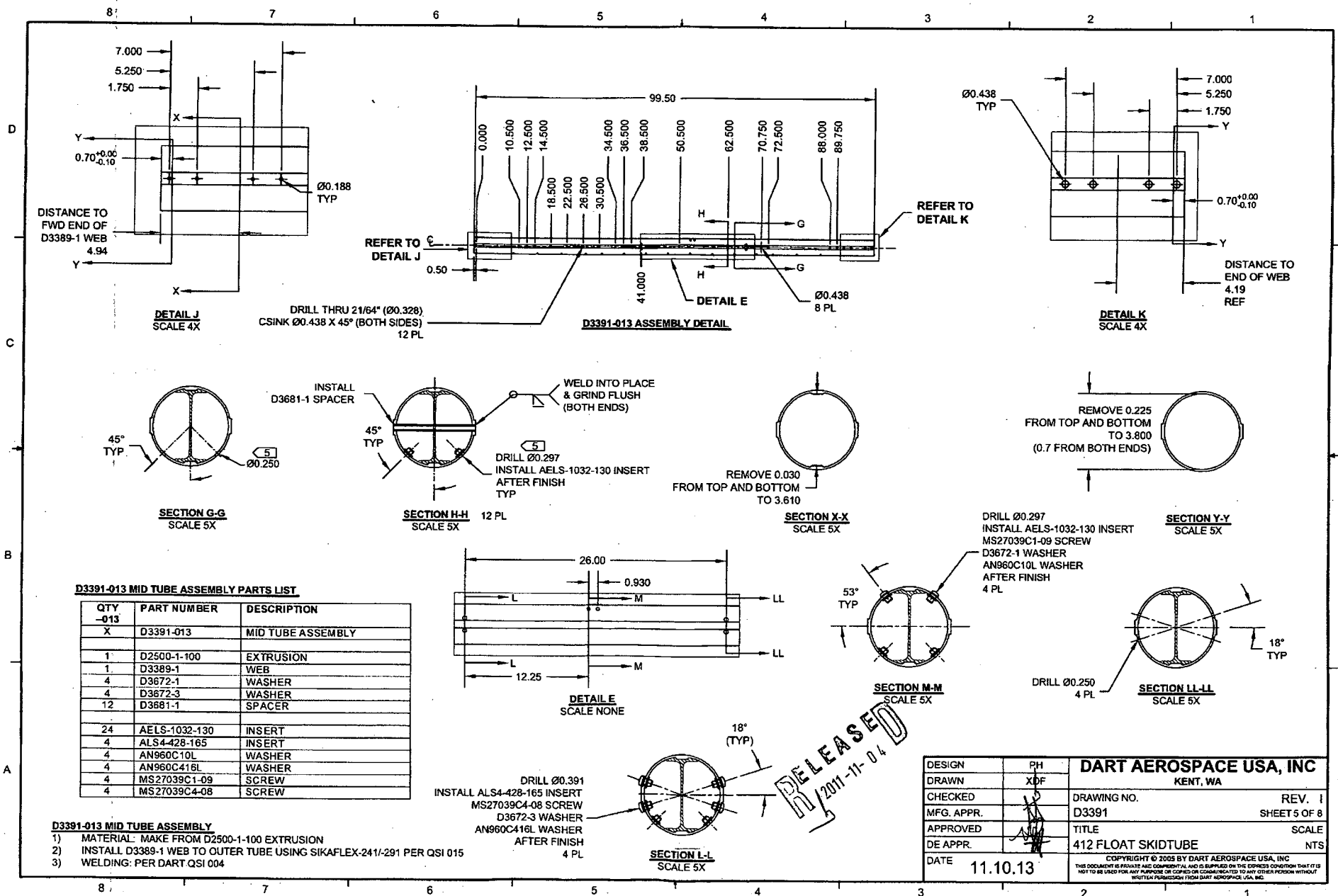


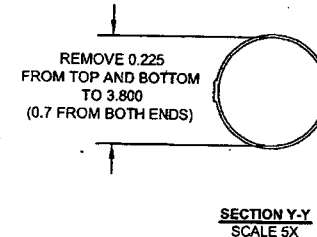
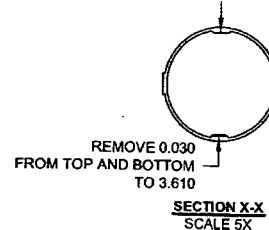
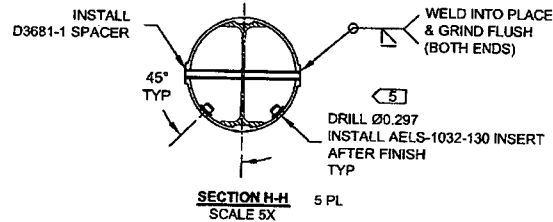
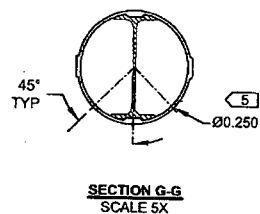
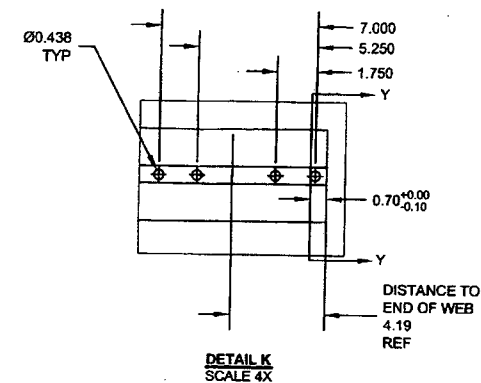
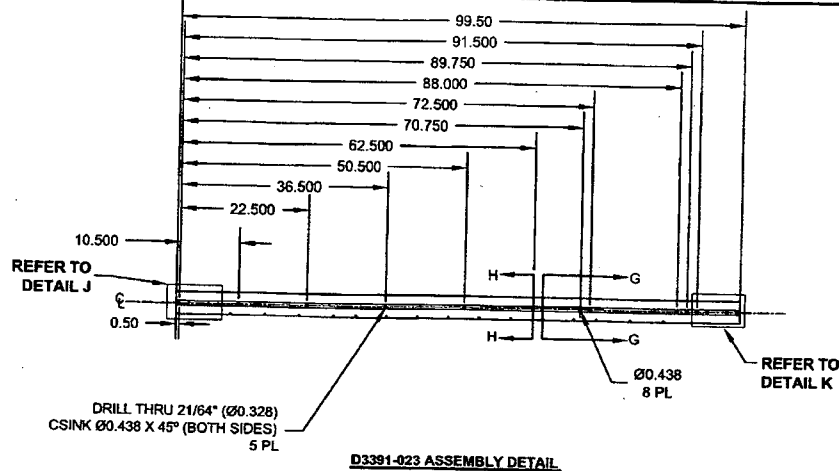
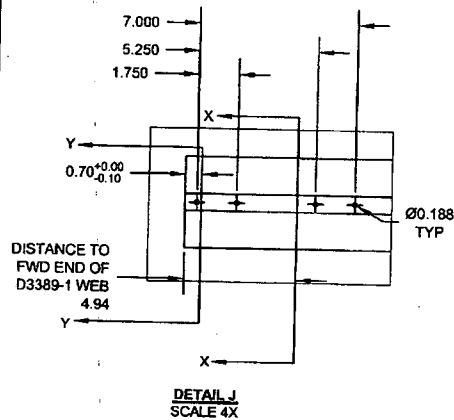
VIEW Z-Z
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D3391-023 MID TUBE ASSEMBLY PARTS LIST

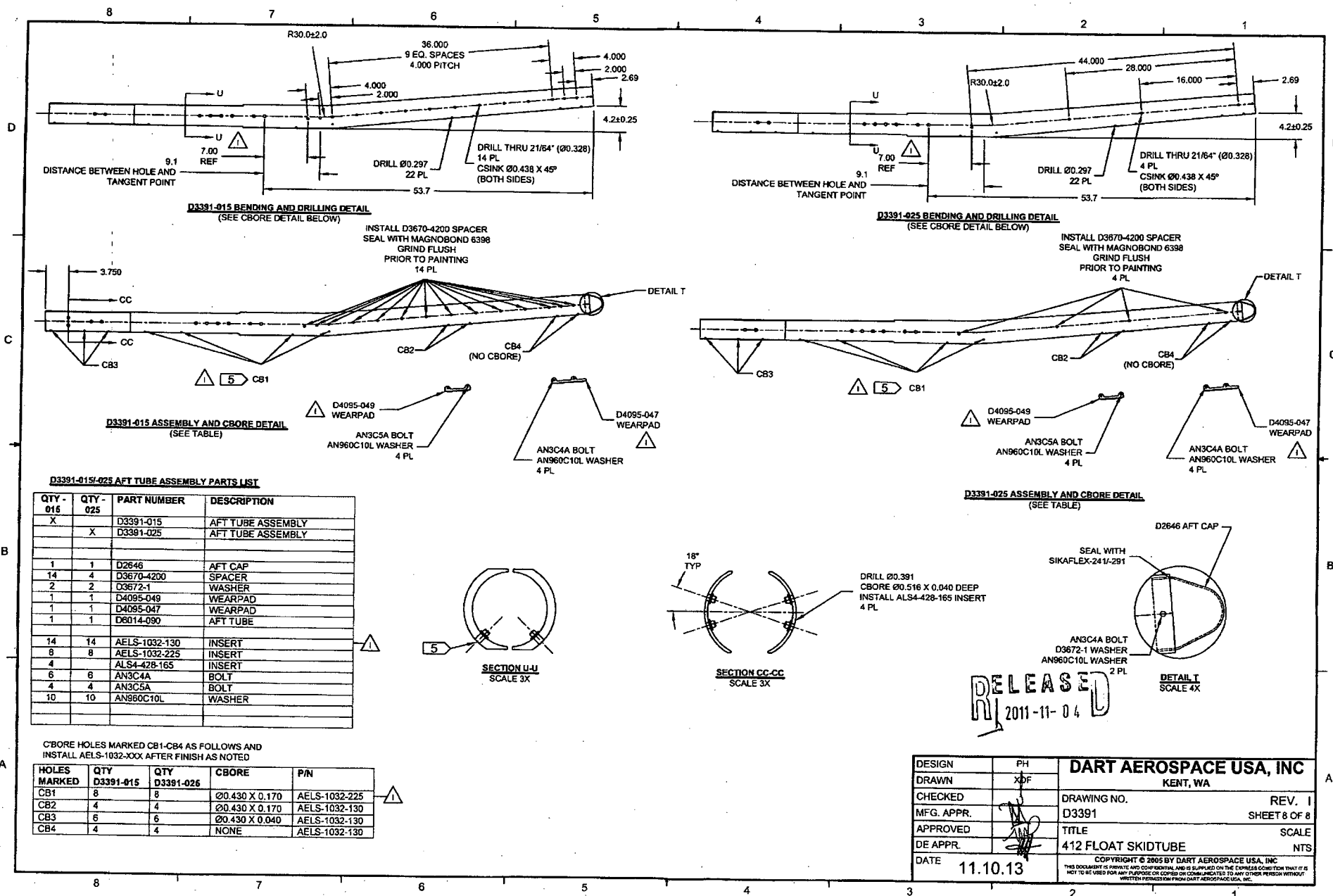
QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

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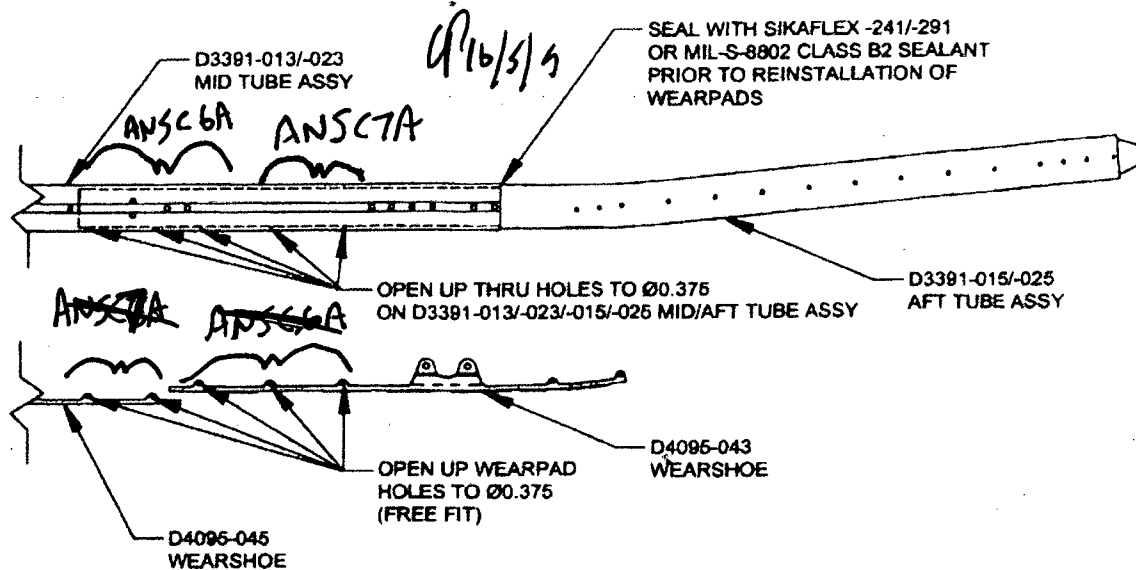
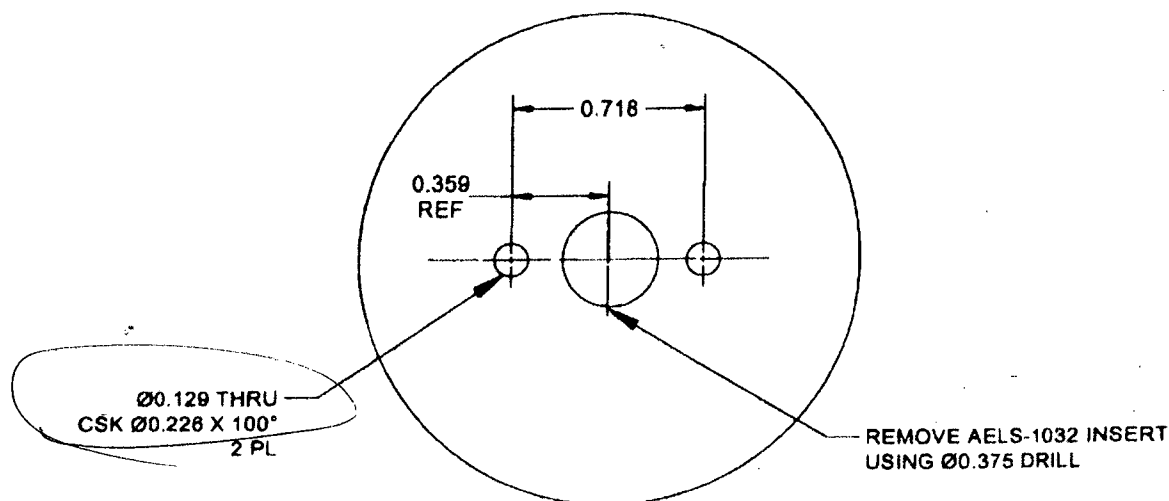


FIGURE 1 - AFFECTED LOCATIONS
(Aft section of D412-742-XXX Assy shown)



DETAIL A
(10 PLACES)

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3.0 PARTS LIST

QTY -011	PART NUMBER	DESCRIPTION
1	DSI9733-011	SKIDTUBE REPAIR KIT
1	AN5C7A	BOLT
12	MS20801AD4W4	RIVET, BLIND
8	MS20601AD4W9	RIVET, BLIND
10	MS21075L5	NUT PLATE, FLOATING
10	NAS1149C0532R	WASHER

> (1) AN4C7A
(6) AN4C6A

Q 16/5/4

4.0 WEIGHT AND BALANCE

There is negligible weight and balance change associated with this modification.

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MFG. APPR.	N/A	DSI 9733	SHEET 3 OF 3
APPROVED	DM	TITLE	SCALE
DE APPR.	SH	SKIDTUBE INSERT REPAIR	NTS
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DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-742 REV. E AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D412-742 REV. 4
REF FAA STC: SR01583SE
REF CANADIAN STC: SH05-37
REF EASA STC: EASA.IM.R.S.00126

1.0 PURPOSE

The purpose of this DART Service Instruction is to provide a repair procedure to replace spinning AELS-1032 inserts with MS21075L5 Floating Nut Plates on D412-742-011/-013 Float Skidtubes in locations where the D3391-013/-023 Mid Tube Assembly overlaps the D3391-015/-025 Aft Tube Assembly as shown in Figure 1.
This modification has been incorporated into D412-742-011 @ CHG008 and D412-742-013 @ CHG008

2.0 INSTALLATION

Note 1: Disassembly of the D3391-015/-025 Aft Tube Assembly from the D3391-013/-023 Mid Tube Assembly is required prior to completion of this repair. Disassemble in accordance with ICA-D12-742.

Note 2: When drilling holes for the Floating Nut Plate, DART recommendation is to use a Nut Plate Drill Jig to ensure drilled holes are well aligned and square for ease of installation.

- 2.1 Drill out AELS-1032 Inserts (Qty 10) located in D3391-015/-025 Aft Tube Assembly using a $\varnothing 0.375$ drill in locations shown in Figure 1. With reference to Note 2, add additional $\varnothing 0.129$ countersunk holes (Qty 2) per Detail A.
- 2.2 Increase the diameter of affected thru holes in D3391-013/-023 Mid Tube Assembly with a $\varnothing 0.375$ drill bit, as shown in Figure 1.
- 2.3 Touch up affected areas with chemical film material (Alodine 1200 or 1201) per MIL-C-5541.
- 2.4 Install MS21075L5 Nut Plate (Qty 10) using MS20601AD4W4 (Qty 12) in the six (6) most forward holes and MS20601AD4W9 (Qty 8) in the four (4) aft holes. It is acceptable to replace MS20601AD4 rivets with longer or shorter rivets as required.
- 2.5 Increase diameter of affected wearpad holes on D4095-043/-045 to $\varnothing 0.375$
- 2.6 Re-install D3391-015/-025 Aft Tube Assembly in accordance with ICA-D412-742 Section 32.9. Install D4095-043/-045 Wearshoes using AN5C7A Bolts (Qty 10) and NAS1149C0532R Washers (Qty 10) in locations corresponding to this modification.

A	NEW ISSUE	WM	15.11.27
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APPROVED	[Signature]	TITLE	SCALE
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Change Record

PAGE 1 OF 1

Part Number: D412-742-043

Description: REPLACEMENT FLOAT SKIDTUBE

[illegible]